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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,746	09/10/2003	Oliver Horn	008388-7	3402

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EXAMINER

FORD, JOHN K

ART UNIT	PAPER NUMBER
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3744

DATE MAILED: 11/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/658,746

Applicant(s)

HORN ET AL.

Examiner

John K. Ford

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/5/06 + 10/17/06 (RCE)
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10,12,13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10,12,13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Applicant's RCE and the amendment of October 5, 2006 have been carefully considered.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 10, 12 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant has written the means limitations in proper form to invoke 35 USC 112, sixth paragraph. Nevertheless, claim 13 is ambiguous. The heat exchanger claimed in claim 13, line 3 is 66. The evaporator claimed in claim 13, line 3 is 32. These are both located in heat/cold reservoir 34. That much is clear. The first heating/cooling surface is probably 92. Correct? What constitutes the claimed "second heating/cooling surface" in Figure 1 (the elected species) is unclear. It would appear that it would have to be element 86 but that is disclosed to be a heat exchanger not a heating/cooling surface. 37 CFR 1.75(d)(1) requires some correspondence between claim terminology and the corresponding terminology in the specification. Because that rule is not being followed here, there is confusion. Assuming element 86 is the claimed "second heating/cooling surface", then it becomes very unclear which of the three valves 72, 90 and 54 in the heat transfer medium circuit correspond to the four "means for selectively....."

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recitations recited in claim 13. Element 92 can be selectively connected to element 66 by valve 90. Element 86 cannot be selectively connected to element 66 as claimed because there is no valve in series with it as there is in the case of element 92. Valve 72 if blocked off will stop flow to both elements 86 and 92 at the same time, therefore it is not "selective" as is claimed in claim 13. The heat source 50 can be connected to both of heat exchanger 66 and element 86 at the same time (which again is not "selective" connection), as well as to element 92, if valve 90 is open. The heat source 50 can never be selectively connected to element 92 because when valves 54 and 90 are open to allow flow through element 92, it also necessarily flows through 86 (because there is no valve disclosed in series with element 86). The flow can even go thorough heat exchanger 66, in this last discussed mode, if valve 72 is open. The claims simply do not describe what applicant has disclosed in Figure 1. It is submitted that three valves (72, 90 and 54) cannot produce four "selective" connections claimed in claim 13.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 10, 12 and 13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to

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one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The discussion above is incorporated here by reference. Applicant has claimed something that is not supported by the original disclosure. As explained above, it is submitted that three valves (72, 90 and 54) cannot produce four "selective" connections claimed in claim 13. See the above discussion under 35 USC 112, second paragraph, incorporated here by reference.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combined teachings of Herta (2002/0100290) and Saperstein (5,265,437) and optionally Brocx (5,322,217) and optionally Rafalovich et al (6,059,016).

Herta discloses all of the claimed features of claim 13, including a compressor 21, condenser 22, evaporator 30, a heat source 10, a heat exchanger 17, a heat/cold reservoir 33 and a heating/cooling surface 12, which heats a vehicle interior wall 37 by

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virtue of fan 13 blowing air through heating/cooling surface 12. Elements 12 and 17 are connected in parallel. Valve 20 controls flow of engine heat transfer medium through element 12. A circulation pump 18 is shown. A second evaporator 25 is shown.

No driver's bed heating/cooling surface is disclosed in Herta. Herta does disclose a compartment heater 12, however.

Saperstein teaches a sleeping heat exchanger 69 connected in parallel with the compartment heater 68 to permit the sleeper area to be conditioned by the circulating medium. The flow of circulating medium is controlled by a plurality of valves 70 that permit the medium to flow selectively through either heat exchanger 68, heat exchanger 69 or both heat exchangers 68 and 69 at the same time as disclosed in col. 7, lines 9-28, incorporated here by reference.

To have connected a second heat exchanger in parallel, fluidically, with respect to heater 12 of Herta using selective valving as described in Saperstein in col. 7, lines 9-28, incorporated here by reference, to permit Herta's system to comfortably condition an over-the-road truck with a sleeper compartment, by allowing the selective use of one or both heat exchangers depending on which compartment or compartments were occupied (operator's cab and/or cargo or sleeping cab as shown in Saperstein at 26 and 28), would have been obvious to one of ordinary skill in the art.

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Brocx is optionally relied upon to teach (i.e. a "teaching reference") the art recognized equivalence of using a main compartment heat exchanger alone (Figure 9) and a main heat exchanger and sleeper unit connected in parallel (Figure 10) thereby reinforcing the teachings of the combination of Herta/Saperstein discussed above, if there is any question about connecting heaters for different compartments fluidically in parallel with respect to the engine coolant.

Rafalovich et al (6,059,016) is optionally relied upon to show the skill level in this art. As disclosed in Figure 34, a compartment heater 222, three way valve 900 and thermostatic valves 940 and 970 are clearly shown. These valves (900, 940 and 970) selectively direct flow to a plurality of parallel-connected heat exchangers (i.e. 222, 910 and 920) from a storage heating and cooling device (similar to that disclosed by Herta). To the extent that the examiner has to respond to the (below the ordinary skill level) argument advanced at the top of page 6 of applicant's November 29, 2005 response, Rafalovich clearly discloses that one of ordinary skill in this art would have possessed a skill level sufficient to connect valved heat exchangers (such as disclosed by Saperstein) in parallel with respect to a source of heated or cooled liquid (such as the heating and cooling system of Herta) notwithstanding the fact that Saperstein only discloses a cooling system and not a combined heating/cooling system and that Brocx discloses only a heating system and not a combined heating/cooling system.

The examiner has now shown applicant that connecting valved heat

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exchangers in parallel with respect to a source of temperature conditioning fluid is known in cooled systems (Saperstein), heated systems (Brocx) and, now, combined heated and cooled systems (Rafalovich). It is submitted that, at the level of skill evident from the study of these references, these are very simple modifications.

Furthermore, the valves disclosed by the prior art appear to correspond in number and function to those disclosed in applicant's Figure 1 and, to the extent that the limitations set forth in claim 13 are descriptive of Figure 1, those as well.

Claims 10, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art as applied to claims 10, 12 and 13 above, and further in view of Baier.

To have made the rear heat exchanger of the prior art discussed above of a plate type heat exchanger to take up less room in the sleeper compartment and advantageously avoid the use of a separate fan would have been obvious to one of ordinary skill in the art.

Any inquiry concerning this communication should be directed to John K. Ford at telephone number 571-272-4911.



John K. Ford
Primary Examiner